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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,323	12/28/2001	Marcia Reid Martin	2001-057-SFT	8893
7590	09/16/2005		EXAMINER	
STORAGE TECHNOLOGY CORPORATION One Storage Tek Drive Louisville, CO 80028-4309			PARTHASARATHY, PRAMILA	
			ART UNIT	PAPER NUMBER
			2136	

DATE MAILED: 09/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/034,323	MARTIN ET AL.
	Examiner	Art Unit
	Pramila Parthasarathy	2136

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 16 April 2002.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-27 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-27 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. _____.
- Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/28/2001.

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) Notice of Informal Patent Application (PTO-152)

6) Other: _____.

DETAILED ACTION

1. This action is in response to the communication filed on April 16, 2002. Claims 1 – 27 are pending.

Information Disclosure Statement

2. An initialed copy of the information disclosure statement (IDS) submitted on 12/28/2000 is attached to this office action.

Claim Objections

3. Claims 8, 17 and 26 are objected to because of the following informalities:
 - Claim 8 recites, "The method of claim 8 further ...".
 - Claim 17 recites, "The computer product of claim 17 further ...".
 - Claim 23 recites, "The method of claim 23 further ...".A claim can not dependent on itself. Dependent claim should refer back to and further limit another claim or claims in the same application. See MPEP 608.01(n).

Appropriate correction is required.

For examination purposes, Claims 8, 17 and 23 are considered to be dependent on their respective independent Claims 1, 10 and 19.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1- 27 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

5. Claims 1, 10 and 19 recite "... validating data in a plurality of virtual replicas of a storage device virtual replicas are invalid."

With respect to "... validating data in a plurality of virtual replicas of a storage device virtual replicas are invalid.", although the specification discloses a data management appliance for replicating data written to a primary storage system, the specification does not disclose "... validating data in a plurality of virtual replicas of a storage device virtual replicas are invalid." The specification does not indicate how to validate data in a plurality of virtual replicas of a storage device and how to identify virtual replicas that are invalid.

Examiner broadly interprets "... validating data in a plurality of virtual replicas of a storage device virtual replicas are invalid.", as checking data in a storage device to store valid data (checkpoints) in the storage device.

The dependent claims 2 – 9, 11 – 18 and 20 – 27 are rejected at least by virtue of their dependency on the dependent claims.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1 – 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Lim et al. (U.S. Patent Number 6,795,966).
7. Regarding Claim 1, Lim teaches validating data in a plurality of virtual replicas of a storage device (Summary and Column 9 line 40 – Column 11 line 8); and identifying a last valid replica from the plurality of virtual replicas, wherein later virtual replicas from the plurality of virtual replicas are invalid (Summary and Column 11 lines 13 – 60).

8. Regarding Claim 10, Lim teaches validating data in a plurality of virtual replicas of a storage device (Summary and Column 9 line 40 – Column 11 line 8); and identifying a last valid replica from the plurality of virtual replicas, wherein later virtual replicas from the plurality of virtual replicas are invalid (Summary and Column 11 lines 13 – 60).

9. Regarding Claim 19, Lim teaches means for validating data in a plurality of virtual replicas of a storage device (Summary and Column 9 line 40 – Column 11 line 8); and means for identifying a last valid replica from the plurality of virtual replicas, wherein later virtual replicas from the plurality of virtual replicas are invalid (Summary and Column 11 lines 13 – 60).

10. Claims 2, 11, 20 are rejected as applied above in rejecting claims 1, 10 and 19. Furthermore, Lim teaches wherein validating the data includes scanning for viruses and the last valid virtual replica is found to contain no viruses. (Summary; Column 9 line 40 – Column 11 line 60; Column 18 lines 2 – 20 and Column 29 lines 12 – 25).

11. Claims 3, 12, 21 are rejected as applied above in rejecting claims 1, 10 and 19. Furthermore, Lim teaches wherein the plurality of virtual replicas represent contents of a database, validating the data includes verifying that the contents of the database are consistent, and the last valid virtual replica contains consistent database contents

(Summary; Column 9 line 40 – Column 11 line 60 and Column 23 line 35 – Column 27 line 6).

12. Claims 4, 13, 22 are rejected as applied above in rejecting claims 1, 10 and 19. Furthermore, Lim teaches further comprising: copying contents of the last valid virtual replica to the storage device, whereby the storage device is restored to a valid state (Summary; Column 9 line 40 – Column 11 line 60 and Column 23 line 35 – Column 27 line 6).

13. Claims 5, 14, 23 are rejected as applied above in rejecting claims 1, 10 and 19. Furthermore, Lim teaches in response to identifying the last valid virtual replica, producing an alert that an error has occurred (Summary; Column 9 line 40 – Column 11 line 60 and Column 27 lines 6).

14. Claims 6, 15, 24 are rejected as applied above in rejecting claims 1, 10 and 19. Furthermore, Lim teaches in response to identifying the last valid virtual replica, halting execution of a host computer (Summary; Column 9 line 40 – Column 11 line 60 and Column 23 line 35 – Column 27 line 33).

15. Claims 7, 16, 25 are rejected as applied above in rejecting claims 1, 10 and 19. Furthermore, Lim teaches wherein the virtual replicas are stored by a data management appliance (Summary; Column 9 line 40 – Column 11 line 60 and Column 23 line 35 – Column 27 line 26).

16. Claims 9, 18, 27 are rejected as applied above in rejecting claims 1, 10 and 19. Furthermore, Lim teaches in response to identifying the last valid virtual replica, halting operation of the storage device (Summary; Column 9 line 40 – Column 11 line 60 and Column 23 line 35 – Column 27 line 33).

17. Claims 8, 17, 26 are rejected as applied above in rejecting claims 7, 16 and 25. Furthermore, Lim teaches in response to identifying the last valid virtual replica, halting operation of the data management appliance (Summary; Column 9 line 40 – Column 11 line 60 and Column 23 line 35 – Column 27 line 33).

Conclusion

18. Examiner's Note: Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures

may apply as well. It is respectfully requested from the applicant, in preparing the responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO Form 892.

Applicant is urged to consider the references. However, the references should be evaluated by what they suggest to one versed in the art, rather than by their specific disclosure. If applicants are aware of any better prior art than those are cited, they are required to bring the prior art to the attention of the examiner.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pramila Parthasarathy whose telephone number is 571-272-3866. The examiner can normally be reached on 8:00a.m. To 5:00p.m.. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on 571-232-3795. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR only. For more information about the PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Pramila Parthasarathy
September 09, 2005.


AYAZ SHEIKH
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